The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1.   (Currently Amended): An image processing apparatus comprising:

a saturation calculation unit, arranged to calculate saturation information of an image;

a first setting unit, arranged to set a first conversion line for a low-saturation side, wherein the first conversion line converts a ~~substantially~~ minimum input value of a saturation of the image to a ~~substantially~~ minimum output value;

a second setting unit, arranged to set a second conversion line for a high-saturation side, wherein the second conversion line converts a ~~substantially~~ maximum input value of the saturation of the image to a ~~substantially~~ maximum output value, wherein the second conversion line <u>intersects the first conversion line and</u> is set independently of the first conversion line;

a saturation conversion characteristic generating unit, arranged to generate saturation conversion characteristics on the basis of <u>(1)</u> the first conversion line, for the low-saturation side, <u>from the minimum output value to the intersection of the first and second conversion lines,</u> and <u>(2)</u> the second conversion line, for the high-saturation side<u>, from the intersection of the first and second conversion lines to the maximum output value</u>; and

a saturation conversion unit, arranged to convert the saturation of the image on the basis of the saturation conversion characteristics generated by said saturation

conversion characteristic generating unit.

2. and 3. (Canceled)

4. (Previously Presented): The apparatus according to claim 1, further comprising an instruction unit, arranged to accept an instruction input by a user in order to determine the first conversion line, for the low-saturation side, and the second conversion parameter, for the high-saturation side.

5. and 6. (Canceled)

7. (Previously Presented): The apparatus according to claim 1, wherein the saturation conversion characteristic exhibits a monotonic increase or a monotonic decrease.

8. - 11. (Canceled)

12. (Previously Presented): The apparatus according to claim 1, further comprising:

a detection unit arranged to detect a color distribution of the image;

a generation unit arranged to generate gradation correction information of the image on the basis of the color distribution; and

a gradation correction unit arranged to perform gradation correction of

the image on the basis of the gradation correction information.

13.   (Previously Presented): The apparatus according to claim 12, wherein said saturation conversion unit performs saturation conversion on an image which has undergone gradation correction by said gradation correction unit.

14.   (Previously Presented): The apparatus according to claim 12, wherein said generation unit comprises:

a highlight calculation unit arranged to calculate highlight area information of an image on the basis of the color distribution; and

a white balance calculation unit arranged to calculate white balance information on the basis of the highlight area information and a predetermined highlight value, and wherein said gradation correction unit corrects gradation of the image on the basis of the white balance information and the highlight value.

15.   (Previously Presented): The apparatus according to claim 12, wherein said generation unit comprises:

a shadow calculation unit arranged to calculate shadow area information of an image; and

a black balance calculation unit arranged to calculate black balance information on the basis of the shadow area information and a predetermined shadow value, wherein said gradation correction unit corrects gradation of the image on the basis of the black

balance information and the shadow value.

16.   (Currently Amended): An image processing method comprising:

a saturation calculation step, of calculating saturation information of an image;

a first setting step, of setting a first conversion line for a low-saturation side, wherein the first conversion line converts a ~~substantially~~ minimum input value of a saturation of the image to a ~~substantially~~ minimum output value;

a second setting step, of setting a second conversion line for a high-saturation side, wherein the second conversion line converts a ~~substantially~~ maximum input value of the saturation of the image to a ~~substantially~~ maximum output value, wherein the second conversion line <u>intersects the first conversion line and</u> is set independently of the first conversion line;

a saturation conversion characteristic generating step, of generating saturation conversion characteristics on the basis of <u>(1)</u> the first conversion line, for the low-saturation side, <u>from the minimum output value to the intersection of the first and second conversion lines,</u> and <u>(2)</u> the second conversion line, for the high-saturation side<u>, from the intersection of the first and second conversion lines to the maximum output value</u>; and

a saturation conversion step, of converting the saturation of the image on the basis of the saturation conversion characteristics generated in said saturation conversion characteristic generating step.

17. and 18.   (Canceled)

19.   (Currently Amended): A recording medium comprising program codes of an image processing method, and at least comprising:

code for a saturation calculation step, of calculating saturation information of an image;

code for a first setting step, of setting a first conversion line for a low-saturation side, wherein the first conversion line converts a ~~substantially~~ minimum input value of a saturation of the image to a ~~substantially~~ minimum output value;

code for a second setting step, of setting a second conversion line for a high-saturation side, wherein the second conversion line converts a ~~substantially~~ maximum input value of the saturation of the image to a ~~substantially~~ maximum output value, wherein the second conversion line <u>intersects the first conversion line and</u> is set independently of the first conversion line;

code for a saturation conversion characteristic generating step, of generating saturation conversion characteristics on the basis of <u>(1)</u> the first conversion line, for the low-saturation side, <u>from the minimum output value to the intersection of the first and second conversion lines,</u> and <u>(2)</u> the second conversion line, for the high-saturation side<u>, from the intersection of the first and second conversion lines to the maximum output value</u>; and

code for a saturation conversion step, of converting the saturation of the image on the basis of the saturation conversion characteristics generated by said code for a saturation conversion characteristic generating step.

20.   (Previously Presented): The method according to claim 16, further comprising an instruction step, of accepting an instruction input by a user in order to determine the first conversion line, for the low-saturation side, and the second conversion line, for the high-saturation side.

21.   (Currently Amended): An image processing method for setting a conversion characteristic and converting image data by using a set conversion characteristic, said method comprising:

a first setting step, of setting a first conversion line for a low-level side of an image, wherein the first conversion line converts a ~~substantially~~ minimum input value of the image to a ~~substantially~~ minimum output value;

a second setting step, of setting a second conversion line for a high-level side of the image, wherein the second conversion line converts a ~~substantially~~ maximum input value of the image to a ~~substantially~~ maximum output value, and wherein the second conversion line intersects the first conversion line and is set independently of the first conversion line;

a conversion characteristic generating step, of generating conversion characteristics on the basis of (1) the first conversion line, for the low-level side, from the minimum output value to the intersection of the first and second conversion lines, and (2) the second conversion line, for the high-level side, from the intersection of the first and second conversion lines to the maximum output value; and

a conversion step, of converting the image data on the basis of the conversion characteristics generated in said conversion characteristic generating step.

22.   (Currently Amended): A recording medium comprising program code for performing an image processing method for setting a conversion characteristic and converting image data by using a set conversion characteristic, said program code comprising:

code for a first setting step, of setting a first conversion line for a low-level side of an image, wherein the first conversion line is set by converting a ~~substantially~~ minimum input value of the image to a ~~substantially~~ minimum output value;

code for a second setting step, of setting a second conversion line for a high-level side of the image, wherein the second conversion line is set by converting a ~~substantially~~ maximum input value of the image to a ~~substantially~~ maximum output value, and wherein the second conversion line intersects the first conversion line and is set independently of the first conversion line;

code for a conversion characteristic generating step, of generating conversion characteristics on the basis of (1) the first conversion line, for the low-level side, from the minimum output value to the intersection of the first and second conversion lines, and (2) the second conversion line, for the high-level side, from the intersection of the first and second conversion lines to the maximum output value; and

code for a conversion step, of converting the image data on the basis of the conversion characteristics generated by said code for a conversion characteristic generating step.